



# Clean Air: An Act That Works

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## REDUCING TOXIC EMISSIONS

One of the important innovations in the Clean Air Act Amendments of 1990 was a new, technology-based approach to controlling toxic emissions. Under this approach, the Environmental Protection Agency has issued 15 final toxic standards in the last five years, reducing toxic emissions by 1.6 billion pounds each year. In the previous 20 years, EPA had issued only 7 standards.

The Health Risk. The Clean Air Act lists 189 hazardous air pollutants. Examples of hazardous air pollutants include benzene, dioxin, mercury, and methyl isocyanate, the chemical that killed thousands in Bhopal, India. These toxic emissions can cause cancer, brain damage, reproductive disorders, birth defects, and other serious human health effects.

In addition, the toxic emissions contribute to the contamination of water bodies with toxic chemicals. The Great Lakes and many other waters are subject to health advisories warning against fish consumption as a result of this toxic contamination.

25 Years Ago. The 1970 Clean Air Act directed EPA to reduce toxic emissions to levels that protect public health with an "ample margin of safety." This risk-based standard proved nearly impossible to implement, because proposed regulations became mired in administrative dispute and litigation over the adequacy of the agency's risk assessments. The result was that EPA succeeded in issuing only seven toxic standards between 1970 and 1990. These standards reduced toxic emissions by just 0.25 billion lbs/yr.

There is no reliable data on aggregate toxic emissions in 1970. In fact, good data did not become available until 1989, when the congressionally mandated toxic release inventory showed that manufacturing facilities emitted 2.7 billion pounds of toxic pollutants in 1987.

1990. By 1990, when Congress was debating 1990 Clean Air Act Amendments, toxic emissions were estimated to cause 1,600 to 3,000 cancer cases each year. For residents living near large uncontrolled toxic sources, such as chemical plants, steel mills, and smelters, lifetime cancer risks from toxic emissions sometimes exceeded 1 in 1,000.

Congress responded to these health threats by adopting a new approach to controlling toxic emissions. Under the new approach, emissions standards would be based on the "maximum achievable control technology" (MACT), which is defined as the degree of control achieved by "the best controlled similar source." The 1990 Amendments directed EPA to promulgate MACT standards for all major sources of toxic emissions over a phased ten-year period.

Today. Since 1990, EPA has issued 15 new MACT standards, including standards for the chemical industry, coke ovens, and oil refineries. These standards will reduce toxic emissions by 1.6 billion lbs/yr. In just the three-year period from 1990 to 1993, toxic emissions reported to the toxic release inventory by manufacturing facilities dropped over 25%.

The new toxics standards will also result in the reduction of 1.7 million tons per year of volatile organic compounds (VOCs), a precursor to urban ozone pollution. This is the equivalent of removing 38 million cars from the road (about 25% of all U.S. cars).

Why the Clean Air Act Is Working. The technology-based approach in the 1990 Clean Air Act Amendments has proven to be a major success. This approach has allowed EPA to sidestep debilitating debates over risk assessment and focus its resources instead on determining an achievable level of control at major sources of toxic pollution.